

Remarks

Claims 1-20 were pending in the application. Claims 1-20 were rejected. Claims 1, 9, and 11 are amended. Claims 2, 3, and 7 are canceled. Claims 1, 4-6, and 20 are now pending. Claim 1 is the independent claim. Reconsideration of the amended application is respectfully requested.

The examiner objected to Fig. 1 as failing to show all necessary views of the virtual coloscopy as described in the specification, stating that the provided views do not allow the examiner to discern the major elements in the figure to distinguish between the views. The examiner acknowledged that Fig. 1 shows axial, frontal, sagittal, and oblique views of the virtual coloscopy. Three-dimensional impressions in the form of data representations are also shown to allow for an overview of the examined body region. The examiner was not able to discern the major elements in the figure in order to distinguish between the views. A corrected drawing figure is submitted herewith, in which the elements are more distinguishable. The objection, therefore, should be withdrawn.

The examiner rejected claim 9 as being directed to non-statutory subject matter, asserting that the claim recites a computer program product in such a way that does not comply with recent guidelines for claiming such inventions. Claim 9 is amended to present statutory subject matter. The rejection, therefore, should be withdrawn.

The examiner objected to claim 11 because of a noted informality. Claim 11 is amended to address this informality, and therefore the rejection should be withdrawn.

The examiner rejected claims 9 and 11 under 35 USC §112 as being indefinite. In particular, the examiner stated that the claims are unclear as to whether the claimed computer

program is adapted to perform only the steps (a) and (d) of the method of claim 1. It is submitted that claims 9 and 11 clearly recite the intended subject matter. That is, both of the steps (a) and (d) are performed by the computer program according to claims 9 and 11. Applicant does not wish to further limit the claim to recite performance of steps (a) through (d), nor does Applicant wish to further limit the claims to recite performance only of steps (a) and (d). The rejection, therefore, should be withdrawn.

The examiner rejected claims 1-6, 8-13, and 18-20 as being anticipated by Johnson et al.

Claim 1 is amended to include the features of claims 2, 3, and 7, which are canceled. As amended, independent claim 1 recites a method for processing of a three-dimensional image data set. According to the claimed method, the three-dimensional image data set is converted to at least two different data representations for image reproduction, the at least two different data representations are reproduced, one image section that is shown in one of the data representations is markable, the relative position of the marked image section is calculated for the at least one other data representation, and the relative position of the marked image section is shown in the at least one other data representation. At least one data representation is a sectional view and at least one data representation is a three-dimensional view. The at least one sectional view comprises an axial view and/or a frontal view and/or a sagittal view and/or an oblique view. The at least one three-dimensional view comprises a wall view and/or an intraluminal view. The three-dimensional image data set of a hose-shaped body is processed. At least one of the data representations is a wall view with a line of sight that is parallel and/or anti-parallel to the curvature vector at the maximum curvature of the mid-line of the hose-shaped body.

In contrast, Johnson et al. disclose a system for two-dimensional and three-dimensional imaging of tubular structures in the human body. The examiner acknowledged that Johnson et al. do not teach that at least one of the data representations is a wall view with a line of sight that is parallel and/or anti-parallel to the curvature vector at the maximum curvature of the mid-line of the hose-shaped body. Independent claim 1 is amended to include this feature, and therefore Johnson et al. do not anticipate the invention as recited in claim 1. Claims 4-6, 8-13, and 18-20 depend from claim 1, and therefore also are not anticipated by Johnson et al. The rejection, therefore, should be withdrawn.

The examiner rejected claims 7 and 14-17 as lacking inventive step over US Johnson et al., in view of Zhang et al. The features of claim 7 have been incorporated into independent claim 1, which recites a method for processing of a three-dimensional image data set. According to the claimed method, the three-dimensional image data set is converted to at least two different data representations for image reproduction, the at least two different data representations are reproduced, one image section that is shown in one of the data representations is markable, the relative position of the marked image section is calculated for the at least one other data representation, and the relative position of the marked image section is shown in the at least one other data representation. At least one data representation is a sectional view and at least one data representation is a three-dimensional view. The at least one sectional view comprises an axial view and/or a frontal view and/or a sagittal view and/or an oblique view. The at least one three-dimensional view comprises a wall view and/or an intraluminal view. The three-dimensional image data set of a hose-shaped body is processed. At least one of the data representations is a wall view with a line of sight that is

parallel and/or anti-parallel to the curvature vector at the maximum curvature of the mid-line of the hose-shaped body.

In contrast, Zhang et al. disclose the curvature-vector pair and its application in displaying CT colon data. The Zhang et al. reference does not relate to the processing of three-dimensional data and the display of three-dimensional views, in particular a three-dimensional wall view of a hose-shaped body, as recited in claim 1. See, for example, the Zhang et al. abstract, in which Zhang et al. describe the presentation of the entire colon surface in a single two-dimensional image. Further, according to Zhang et al., the curvature of the colon surface is extracted and analyzed and an irregular grid on the colon surface is used to construct curves and subsequently to calculate the curvature. See page 214, second paragraph, and the paragraph bridging pages 215 and 216.

According to Zhang et al., curvature vectors with respect to the colon lumen assessed and those curvatures that point into the lumen are set to zero. See page 216, penultimate paragraph. The curves constructed for the two-dimensional display are constructed in four directions at each surface point. See the last full paragraph of page 219.

Claim 1 recites that the line of sight of a three-dimensional wall view is parallel and/or anti-parallel to the curvature vector at the maximum curvature of the mid-line (not the surface) of the hose-shaped body. This particular view is not disclosed or suggested by Zhang et al., who only teach construction of curves at each surface point.

In view of the above, it is submitted that no combination of the teachings of Johnson et al. and Zhang et al. could render obvious the invention as recited in claim 1. Claims 14-17 depend from claim 1, and therefore also could not be rendered by Johnson et al., in view of Zhang et al. The rejection, therefore, should be withdrawn.

In view of the foregoing, it is submitted that all objections and rejections have been overcome. It is therefore requested that the Amendment be entered, the claims allowed, and the case passed to issue.

Respectfully submitted,



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Date

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